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COST ACCOUNTANTS & INDUSTRIAL ENGINEERS

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66 KING STREET EAST, HAMILTON
R. Dawson, Secretary-Manager and Editor
Telephone 2-0700

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EDITORIAL

The Rowell Commission

One can hardly follow the proceedings of the Rowell Commission without wondering where is all the discussion going to lead to. Further, one is struck very forcibly by the very apparent disunity of the country. Each province desires something for itself alone, without any thought as to how it affects other provinces, or perhaps there is some thought but little care, and instead of an united Canada we apparently have a Canada which is the very reverse of united. Premier Hepburn does not desire to allow the Dominion Government a free rein in the matter of Unemployment Insurance and, on the other hand, offers to cover the whole of Unemployment Relief if he is given first call on the Income Tax. One would think that perhaps Ontario was out to show its independence and how little the troubles of the Dominion Government concerned it. It does seem a pity that, at a time when unity was so badly needed, there should be such a trend toward disunity. Possibly Canada is suffering from growing pains, but it seems to us that bargains are likely to be struck which will further tend toward rights which should belong to the Dominion Government, despite the British North America Act, being passed on to the Provinces in return for concessions to the Dominion Government. What a situation—the big boy wielding a big stick over his father—and the whole family suffers in the meantime. Maybe another conference of Provincial Premiers with the Dominion Government, with a heart-to-heart talk and a realization that we are supposed to be nation, might help.

Something must be done, quickly, for, in the meantime, there is suffering and Communism and Fascism grows.

The Recession

Signs are not wanting that business is emerging from the present slump, and the prospects for business for the balance of the year are good.. Of course, the budget may alter all this, but we hardly think so. No new taxes are forecast and, while there will hardly be any lessening of taxation, business is more or less resigned to a continuance of the present rate of taxation. The matter of tariff, particularly in relation to the United States agreement, is causing some concern, but whether or not there is any justification for this concern one cannot say at the moment. The Sales Tax will remain at its present level, which sems a pity, for a reduction in this tax would certainly help business. Maybe the Government will bargain

with business later for a reduction in the sales tax in return for a Dominion Unemployment Insurance Act, if the consent of the provinces can be obtained.

British Armament contracts should stimulate the heavy industries, but such stimulation would not be particularly healthy, in view of the fact that such contracts would not last more than two or three years, and then, what? The whole situation is so involved that one hesitates to predict anything, but the next few weeks should tell whether or not we are to have a continuation of the present uncertainty or whether we shall emerge from the recession in such strength as to allow for some measure of prosperity in the immediate future.

At Headquarters

All Chapters have now completed their meetings for the year 1937-38, and all report excellent seasons.

And so we come to the close of one year and to the threshold of another, with all its hopes—and fears.

What does the year 1938-1939 hold for us?

This office is of the very decided opinion that the new year should prove a banner year, in every respect. Business seems to be emerging from its slump, which commenced last fall, and there is decidedly more optimism than was the case two months ago.

So far as our Society is concerned, the outlook is very bright. There should be a decided influx of new members in all Chapters, with several new Chapters organized to swell the total to a new high at the end of our new year.

That this will be accomplished is almost certain, and we should be in a very strong position by the end of next year.

We should, however, do everything possible, both as a Society and as individuals, to keep these new members. Possibly programs of a like nature and a study of various problems in a scientific manner in all Chapters would do much. Occasional visits to plants, with bright addresses and fairly long discussion periods, an occasional social evening, and measures adopted to make the new members feel at home with the rest of us at Chapter meetings would help.

Members are urged to take full advantage of the Reference Library at head office, to send along their problems and queries and to let us know how they like "Cost and Management," and if not, why not. Send along your criticism, not necessarily for publication, but to let us know whether or not our efforts meet with your approval.

Get in touch with your Chapter Secretary and let him know of any particular subject you desire to hear discussed next season. Take an interest

generally in the welfare of your Chapter. It will pay big dividends in many ways.

And now, a word concerning the three new Chapters organized during the past year. These Chapters are now strongly entrenched. The numbers may be relatively small, but they have jumped the biggest hurdle and should add considerable in strength from now on. Meetings have been held regularly in all three centres and have been much enjoyed, and next season we predict that all three will definitely "go to town."

The annual meeting of the Society will be held on May 30th, at the Lakeview Golf and Country Club, at Port Credit, near Toronto, and it is sincerely hoped that a large number of members will attend.

Those within fairly easy reach by car should certainly be on hand in good numbers, and we urge all members to make this annual meeting the largest attended in the history of the Society. Complete details are given concerning this meeting on another page, and we can promise those who do attend a really fine time.

Literature Received

High Standard in the Appearance, Content and Gramatical Construction of Accountants' Reports.

Canadian Chartered Accountant. May.

An article by Robert D. Gracey, of New York City, dealing with the general appearance, content and gramatical construction of various reports.

Accounting for Fixed Assets.

N. A. C. A. April 15.

A splendid article on a many sided problem, written by Victor H. Stempf, Resident Partner, Touche, Noven & Co., New York City.

Obsolescence in the Electric Lamp Industry.

N. A. C. A. April 15.

Deals with obsolescence in a specified industry, but is of value to those engaged in other lines of endeavour. By John S. Learoyd, Jr.

The Accountant and Factory Waste.

The Accountant. April 16.

A short but informative article on a subject of vast interest to all Accountants and Cost Accountants.

Office Mechanism: Success or Failure.

The Accountants' Magazine. April.

Deals with the matter of mechanisation of the office and gives many reasons, often unjustified, why success mechanisations proves to be a failure. Gives also many items to be considered in the matter of such mechanisation to ensure success.

The Installation of a Costing System.

The Cost Accountant. April.

A complete and very fine article concerning the installation of a Cost system, by M. K. Arnott, F.C.W.A.

A Standard Cost System for a Stationary Manufacturing Concern.

N. A. C. A. May 1.

A case study of particular interest to those engaged in the manufacturing of stationary or allied industries.

Chapter Notes

Montreal.

The Montreal Chapter held its concluding meeting on Friday, May 6th, but details are not to hand at the time of going to press. However, it is known that the Chapter has had a decidedly successful season, and all details will be published in the next issue of Cost and Management.

Toronto.

The Toronto Chapter concluded its activities for the season with a social evening, when the members and their wives or lady friends gathered at the Club Esquire, and that all enjoyed themselves thoroughly goes without saying. About eighty-five were present, which is somewhat disappointing, but those who did attend had no regrets.

While the directors for next year have been elected, they have yet to meet to select their officers, and this item will be reported on in the next issue.

Hamilton.

The Hamilton Chapter had planned a social evening to wind up the season 1937-38, but it was later decided to call off this event and to substitute a golf affair during the early summer. The Chapter, however, has enjoyed the best season in its history, and looks forward to next season with keen anticipation.

Officers and directors of the Chapter for next year were reported in the last issue.

London.

The closing meeting of the London Chapter was held on Tuesday, May 5th, when Mr. R. Presgrave, Manager, J. D. Woods Co., Toronto, spoke on "The Control of Indirect LaUbour." Unfortunately the attendance was not up to previous standards, but those present head a very fine analysis of the subject by Mr. Presgrave, who left the subject sufficiently open to cause a real discussion. The talk was very much appreciated and, in addition to a vote of thanks accorded the speaker, a hearty invitation was extended to him to address the members of the Chapter at some future date.

Following the talk and discussion, officers were elected for the coming year, as follows:

Chairman—R. C. L. Keith, Kelvinator of Canada Ltd., London, Ont.

Vice-Chairman—J. J. McLaughlin, Maxwell's Limited, St. Mary's, Ont.

Secretary-Treasurer—Mowat Ballentyne, Holeproof Hosiery of Canada Ltd., London.

Directors—F. Ware, Murray Shoe Co., Ltd.; R. C. Henderson, Somerville Paper Boxes Ltd.; W. C. Benson, C.A., Oscar Hudson & Co.; S. T. Rowe, Wright Lithographing Co. Ltd., all of London, and G. A. Dent, La France Textiles Ltd., Woodstock. Representative on the Dominion Board, S. C. Ferguson, C.A., John Labatt Ltd., London.

Kitchener.

The final meeting for the season of the Kitchener Chapter was held on May 6th, when Mr. W. Perkins of the Steel Company of Canada, Hamilton, spoke on "Welfare in Industry," and while the attendance was hardly as high as had been hoped, the talk was very much enjoyed.

Mr. Perkins approached the subject from an altogether different angle to that usually employed, and pointed out how a Welfare Department, functioning properly, can do much to promote loyalty and good feeling among employees, to say nothing of other benefits to be gained. At the conclusion the speaker answered many questions, and was favoured with a hearty vote of thanks, moved by C. R. Kidner, C.A.

Following the discussion officers were elected as follows:

Chairman—H. D. Huber, Can. Blower & Forge Co. Ltd., Kitchener.

Vice-Chairman—J. Henderson, Newlands Ltd., Galt.

Secretary-Treasurer—G. R. Good, The Kaufman Rubber Co. Ltd., Kitchener.

Directors—D. C. Seebach, B. F. Goodrich Rubber Co. Ltd., E. Taily, C.P.A., V. M. Buchanan, The W. E. Woelfle Shoe Co. Ltd., all of Kitchener; W. I. Jardine, Clare Bros. & Co. Ltd., Preston, and S. E. Nicholson, Sheldon's Limited, Galt. Representative on Dominion Board, C. R. Kidner, C.A., The Savage Shoe Co. Ltd., Preston.

At the previous meeting Mr. F. H. Vercoe, B.Sc., of the Steel Co. of Canada, Toronto, gave a very fine talk on "The Engineer's Approach to Cost Problems" before a good attendance, and answered innumerable questions at the close.

Niagara Peninsula.

On April 20th, Mr. M. I. Long, C.A., of Hamilton, addressed members of the Chapter at the Welland Club, Welland, on the subject "Depreciation and Wasting Assets." Unfortunately the members failed to turn out in full force to hear Mr. Long, who handled his subject extremely well, and at the close there was a fine discussion.

On Friday, May 6th, the closing meeting of the Chapter was held at the Reeta Hotel, Welland, when Mr. Lloyd H. Angstadt, of Buffalo, spoke on "What Management Expects from the Accountant." There was a better attendance at this meeting and Mr. Angstadt's topic was very much enjoyed.

Officers were elected as follows:

Chairman—H. W. Spry, Canadian Atlas Steels Ltd., Welland.

Vice-Chairman—J. McLaren, Foster Wheeler Co. Ltd., St. Catharines.

Secretary-Treasurer—L. C. M. Palmer, B.A., C.G.A., Thompson Products Ltd., St. Catharines.

Directors—C. K. Souder, Hart & Cooley Mfg. Co., Ltd., Fort Erie;

F. H. Hesler, Plymouth Cordage Co., Welland; F. A. N. Haultain, Interlake Tissue Mills Ltd., Merritton, and C. Little, Burgess Battery Co., Niagara Falls, Ont. Representative on the Dominion Board—F. C. Douglas, English Electric Co. Ltd., St. Catharines.

Forum Section

To The Editor,—

In large manufacturing companies, for the past two or three decades at least, the rule arther than the exception has been to utilize the piece work system as a basis for payment of wages to productive workers, and also as a basis for labor cost of product produced. The system in all its various forms has undoubtedly been a great help to cost accountants in the application of labor costs correctly.

But how did we get along before we had piece work systems? Or did we?

I am confronted by the possibility of having to instal a factory accounting system in a factory which will employ some four or five hundred people, and will manufacture almost a complete line of agricultural implements, which you can appreciate will comprise a great variety of machines and replacement parts; this to be done without the assistance of piece work prices.

Although the volume of manufacture will be of fair proportion, the run on any one machine or part will be small. This feature is forecasted for the near future anyway, and would be troublesome even if piece work prices were instituted.

I would like, through the medium of the "Forum," to ascertain from the members of this Society, the simplest method whereby it will be possible to obtain the labor cost of parts or implements produced, keeping in mind that piece work prices are out, and that the following must be costed for labor.

Production of complete implements (by kinds and sizes).

Production of replacement parts.

Work in process inventory.

As the complete implement in most cases is made up of a number of shipping packages, it will be necessary to be able to cost the machine by shipping packages.

I would like this information in sufficient detail for to be able to follow the various steps to obtain necessary information as required.

This I realize, is a big question and will require a great deal of thought, and, to some, a problem, as the established method has been for years piece work prices, and, because of this, other methods have been lost sight of.

I would be very grateful if some member or members can suggest some method that could be adopted.

Yours truly,

COMPANY "RX."

SALARY SCALE SUMMARY

Some time ago a request was made that we ascertain office salary scales in vogue in the city of Toronto.

Ten of the leading firms in the city were contacted and gave the information which we publish below in the hope that it may be of interest to members generally.

Firm Number	1	2	3	4	5	6	7	8	9	10
FEMALE										
(1) TELEPHONE OPERATOR										
(a) Telephone only										
Starting	.....	15.00	.....	.....	.....	.....	.....	15.00	17.00	20.00
Experienced	.....	18.00	.....	.....	.....	.....	.....	17.00	23.00	22.00
Maximum	.....	20.00	.....	.....	.....	.....	.....	20.00	25.00	.....
(b) Telephone and Enquiry										
Starting	18.00	.....	15.00	.....	20.00	16.00	20.00	.....	.....	.....
Experienced	21.00	.....	18.00	24.50	25.00	20.00	25.00	.....	.....	.....
Maximum	.....	.....	22.00	.....	.....	20.00	32.00	.....	.....	.....
(2) TYPISTS (No Shorthand)										
Starting	12.50	14.00	15.00	15.00	15.00	10-15	15.00	15.00	15.00	15.00
Experienced	15.00	19.00	18.00	20.00	20.00	18.00	20.00	17.00	18.00	18.00
Maximum	18.00	22.00	22.00	.....	22.00	20.00	25.00	.....	20.00	.....
(3) STENOGRAPHERS—JUNIOR										
Starting	12.50	14.00	15.00	15.00	15.00	13-15	15.00	14.00	.....	15.00
Experienced	15.00	19.00	18.00	17.00	18.00	18.00	21.00	16.00	.....	16.00
Maximum	.....	20.00	22.00	.....	20.00	20.00	.....	.....	18.00	.....
(4) STENOGRAPHERS—SENIOR										
Starting	16.00	17.00	18.00	17.00	18.00	16.00	18.00	16.00	.....	20.00
Experienced	20.00	20.00	22.00	24.00	22.00	20-25	25.00	18.00	25.00	27.00
Maximum	22.00	25.00	26.00	.....	25.00	25.00	.....	20.00	30.00	.....

(5) SECRETARIES										
Starting	20.00	25.00	.....	24.00	22.00	18.00	25.00	20.00	.....	31.00
Experienced	23.00	40.00	.....	29.00	25.00	20-25	30.00	22.00	30.00	38.00
Maximum	32.50	40.00	.....	.....	29.00	25.00	40.00	25.00	35.00	.....
(6) CASHIER—ASSISTANT										
Starting	.....	.....	.....	.....	.....	15.00	.....	.....	.....	.....
Experienced	18.00	.....	.....	.....	.....	25.00	.....	.....	.....	.....
Maximum	.....	.....	.....	.....	28.00	.....	.....	.....	.....	.....
(7) POSTING MACHINES—ACCOUNTS RECEIVABLE AND PAYABLE										
(b) Telephone and Enquiry										
Starting	18.00	17.00	22.00	.....	20.00	15-16	.....	15.00	20.00	.....
Experienced	20.00	22.00	25.00	.....	25.00	18-24	.....	18.00	25.00	.....
Maximum	.....	25.00	30.00	.....	25.00	25.00	.....	20.00	30.00	.....
(8) POSTING MACHINES—GENERAL										
Starting	.....	17.00	22.00	.....	22.00	15-16	.....	14.00	.....	.....
Experienced	.....	22.00	25.00	.....	25.00	18-24	.....	16.00	.....	.....
Maximum	.....	25.00	30.00	.....	28.00	25.00	.....	.....	.....	.....
(9) BILLING—TYPEWRITER										
Starting	12.50	14.00	18.00	18.00	18.00	13-15	15.00	15.00	15.00	17.00
Experienced	15.00	18.00	22.00	23.00	20.00	18-22	26.00	17.00	20.00	24.00
Maximum	18.00	20.00	26.00	.....	24.00	25.00	.....	18.00	25.00	.....
(10) COMPTOMETER OPERATORS										
Starting	.....	14.00	16.00	15.00	16.00	16.00	.....	15.00	18.00	14.00
Experienced	.....	18.00	20.00	24.00	20.00	18-24	.....	17.50	25.00	22.00
Maximum	.....	20.00	25.00	.....	25.00	25.00	.....	.....	30.00	.....
(11) ADDRESSOGRAPH OPERATOR										
Starting	.....	14.00	.....	.....	15.00	15.00	.....	12.00	.....	.....
Experienced	.....	18.00	.....	.....	20.00	18.00	.....	17.00	.....	.....
Maximum	.....	20.00	.....	.....	22.00	20.00	.....	.....	.....	.....

SALARY SCALE SUMMARY

Firm Number	1	2	3	4	5	6	7	8	9	10
(12) CLERICAL—ORDER TAKING										
Starting	.....	16.00	.....	19.00	20.00	18.00	.....	.....	.....	.....
Experienced	.....	28.00	.....	28.00	24.00	22-24	.....	.....	30.00	.....
Maximum	.....	32.00	.....	.....	34.00	33.00	.....	.....	35.00	.....
(13) CLERICAL—SALES STATISTICS										
Starting	13.00	15.00	16.00	15.00	15.00	.....	15.00	15.00	.....	.....
Experienced	15.00	20.00	20.00	22.00	18.00	.....	25.00	18.00	.....	16.00
Maximum	18.00	22.00	25.00	.....	22.00	.....	35.00	.....	.....	.....
(14) FILLING CLERK										
Starting	13.00	12.00	14.00	16.00	15.00	15.00	.....	15.00	.....	.....
Experienced	15.00	16.00	16.00	18.00	18.00	17.00	.....	18.50	.....	16.00
Maximum	17.00	25.00	18.00	.....	20.00	20.00	.....	.....	.....	.....
(15) ENQUIRY (Part Clerical)										
Starting	.....	16.00	.....	.....	15.00	.....	.....	.....	.....	.....
Experienced	.....	20.00	.....	.....	20.00	.....	.....	.....	.....	.....
Maximum	.....	20.00	.....	.....	20.00	.....	.....	.....	.....	.....
MALE										
(1) OFFICE BOYS (16-19)										
Starting	8.00	10.00	7.00	10.00	10.00	10.00	.....	8.00	10.00	8.00
Experienced	10.00	12.00	10.00	13.00	12.00	12-15	.....	10.00	12.00	10.00
Maximum	10.00	12.00	12.00	.....	12.00	15.00	.....	.....	15.00	.....
(2) JUNIOR CLERKS (20-24)										
Starting	12.00	14.00	10.00	12.00	12.00	10.00	.....	12.00	16.00	9.00
Experienced	15.00	18.00	16.00	15.00	16.00	15.00	.....	15.00	20.00	16.00
Maximum	18.00	22.00	20.00	.....	20.00	18.00	.....	.....	22.00	.....

(3) COST CLERKS—LABOR DISTRN.										
Starting	13.00	.....	.....	14.00	16.00	.....	.....	.....	.....	15.00
Experienced	16.00	.....	.....	20.00	20.00	.....	.....	.....	.....	28.00
Maximum	20.00	.....	.....	.....	22.00	.....	.....	.....	28.00	.....
(4) COST CLERKS—PAYROLL AND TIME										
Starting	18.00	18.00	20.00	.....	20.00	15.00	25.00	15.00	23.00	21.00
Experienced	25.00	25.00	25.00	.....	25.00	20.00	45.00	20.00	27.00	32.00
Maximum	28.00	28.00	30.00	.....	30.00	28.00	50.00	.....	31.00	.....
(5) COST CLERKS—MAINTENANCE, Etc.										
Starting	.....	22.00	16.00	24.00	20.00	15.00	.....	.....	.....	21.00
Experienced	.....	35.00	19.00	35.00	22.00	25.00	.....	.....	28.00	33.00
Maximum	.....	35.00	23.00	.....	25.00	40.00	.....	.....	31.00	.....
(6) COST CLERKS—PROD. RECORDS										
Starting	14.00	18.00	16.00	17.00	20.00	.....	20.00	20.00	23.00	.....
Experienced	16.00	25.00	19.00	27.00	25.00	.....	25.00	25.00	27.00	37.00
Maximum	18.00	30.00	23.00	.....	35.00	.....	.....	30.00	31.00	.....
(7) COST CLERKS—SENIOR										
Starting	25.00	25.00	20.00	25.00	25.00	20.00	25.00	25.00	23.00	.....
Experienced	35.00	35.00	25.00	35.00	32.00	25.00	40.00	35.00	.....	35.00
Maximum	40.00	40.00	30.00	.....	35.00	40.00	45.00	40.00	31.00	.....
(8) ACCOUNTS PAYABLE—SUPER.										
Starting	28.00	25.00	.....	25.00	25.00	25.00	25.00	25.00	.....	.....
Experienced	33.00	35.00	.....	30.00	28.00	35.00	35.00	30.00	25.00	29.00
Maximum	36.00	35.00	.....	.....	32.00	50.00	40.00	.....	30.00	.....

SALARY SCALE SUMMARY

Firm Number	1	2	3	4	5	6	7	8	9	10
(9) ACCOUNTS PAYABLE—CLERICAL										
Starting	14.00	.....	.....	22.00	18.00	15.00	16.00	15.00	.....	.....
Experienced	20.00	.....	.....	26.00	22.00	20.00	25.00	20.00	.....	22.00
Maximum	22.00	.....	.....	.....	25.00	25.00	.....	.....	.....	.....
(10) ACCOUNTANTS—GENERAL AND STATEMENTS										
Starting	35.00	35.00	.....	28.00	28.00	25.00	25.00	25.00	.....	29.00
Experienced	45.00	45.00	.....	42.00	40.00	40.00	30.00	30.00	40.00	61.00
Maximum	.....	50.00	.....	.....	45.00	45.00	.....	55.00	45.00	.....
(11) CREDIT DEPT., ASSIST. TO MGR.										
Starting	20.00	25.00	.....	26.00	20.00	13.00	.....	13.00	.....	.....
Experienced	24.00	35.00	.....	31.00	25.00	18-30	.....	25.00	30.00	40.00
Maximum	28.00	40.00	.....	.....	32.00	35.00	.....	28.00	45.00	.....
(12) TRAFFIC DEPT.—ASSISTANTS										
Starting	.....	18.00	.....	25.00	20.00	.....	.....	20.00	.....	.....
Experienced	.....	27.00	.....	30.00	28.00	25.00	32.75	25.00	30.00	37.00
Maximum	.....	30.00	.....	.....	35.00	.....	.....	35.00	45.00	.....
(13) SALES DEPT.—ASSTS. TO MGR.										
Starting	20.00	.....	18.00	22.00	20.00	15.00	25.00	20.00	.....	35.00
Experienced	30.00	.....	25.00	28.00	30.00	20-30	35.00	35.00	30.00	48.00
Maximum	45.00	.....	35.00	.....	40.00	42.00	40.00	50.00	45.00	.....
(14) SALES DEPT.—STATISTICS										
Starting	15.00	.....	.....	.....	16.00	.....	.....	.....	.....	.....
Experienced	17.50	.....	.....	.....	25.00	.....	.....	.....	25.00	55.00
Maximum	20.00	.....	.....	.....	30.00	.....	.....	.....	30.00	.....

(15) ADVTG. DEPT. ASSISTANTS										
Starting	.....	25.00	18.00	25.00	20.00	15.00	.....	25.00	.....	25.00
Experienced	.....	35.00	25.00	35.00	30.00	16-35	.....	30.00	30.00	31.00
Maximum	.....	40.00	35.00	.....	40.00	45.00	.....	35.00	40.00	.....
(16) CASHIER										
Starting	.....	.....	.....	22.00	30.00	.....	.....	.....	.....	.....
Experienced	.....	.....	.....	25.00	40.00	.....	.....	.....	.....	39.00
Maximum	.....	.....	.....	.....	45.00	.....	.....	28.00	.....	.....
(17) COST CLERKS—MATERIAL, STOCK AND COST RECORDS										
Starting	11.00	16.00	16.00	24.00	20.00	15.00	20.00	18.00	23.00	.....
Experienced	14.00	22.00	19.00	35.00	25.00	25.00	25.50	25.00	27.00	25.00
Maximum	17.00	24.00	23.00	.....	30.00	40.00	30.00	30.00	31.00	.....
GENERAL										
Efficiency Rating of Staff	No	Yes	No	No	Yes	No	No	No	No	No
Office Hours:										
Monday to Friday	8.45	8.50	8.30	8.30	8.30	8.00	8.30	8.30	8.00	8.30
.....	5.30	5.15	5.00	5.00	5.00	5.00	5.00	5.30	5.00	5.00
Saturday	Nil	8.50	8.30	Nil	Nil	8.00	8.30	8.30	Nil	Nil
.....	.....	12.00	12.00	.....	.....	12.00	12.00	12.00	.....	.....
Time Recorder Used	No	No	No	No	Yes	Yes	No	Yes	No	Yes
Punctuality--Rewards and Penalties	No	No	No	No	No	Yes	No	No	No	No
Service Bonus after one year—										
1 year										25.50
20 years										165.75

Wage Incentive and Cost Control

By
A. SANKOFF,
Canadian Westinghouse Co. Ltd., Hamilton

Before Kitchener Chapter, March 17th,
and London Chapter, April 12th, 1938

Out in the shop, production processes and problems are not all that must function properly to create a smooth working organization. There are certain factors with regard to the management of men and the control of costs, at the source, which, in themselves, are as important as the evolution of the product itself.

One of these problems is concerned with getting the lowest possible labour cost and still keeping satisfied and contented employees. A second is the keeping of the material costs to the set standards; and a third is the knowing of the status of the factory expenses. Finally, there is the problem of getting the various functions within the shop to co-operate in the interests of producing the best product at the lowest possible cost.

To accomplish the above, and to maintain an efficient plant, it is believed that a wage incentive system, and all that it entails, should go hand in hand with cost reduction.

Prior to the advent of the complex industrial system, all that was necessary to obtain labour was to go out into the open market and purchase it according to the laws of supply and demand. But to-day it is different. With governmental regulation, labour agitation, and social obligations, the economic laws are inoperative, and the bargain of hiring men no longer prevails. Added to the above, the increase in the size of plants has eliminated the personal contact between employer and employee. No longer are the men hired by the boss, nor do they see him for the occasional chat, from which the worker usually emerged inspired to give the job all he had. That old contact and pride which created an unconscious incentive is no more. To-day, in most cases, all men are hired at an employment office, according to a class and at a given class rate. And since men may be hired at an hourly wage, so low as to lack any incentive, it follows that this may have an adverse effect upon unit manufacturing costs. For, as it is well known, it is not the hourly rate that effects unit costs, but output per hour. To overcome some of the ills mentioned above, wage payment plans have been devised that are economically sound, that present a personal aspect by putting men on their own, and that offer them an incentive that overcomes low base rates and unfavourable unit costs.

In industry to-day, men are paid either by the hours they work, (known as "day work,") or for the work they complete, (known as "plan work").

From shop experience, it has been found that workmen, on their "own hook," do not produce as much as is possible, because they like to make

the job last, or they are plain lazy, or incentives are lacking, or they are misfits. In addition, they require more supervision. But if standards and incentives are introduced to workmen the wheels of industry can be made to turn. A decent reward, commensurate with the work and effort, for reaching a goal can do wonders, but no hard and fast rule applies for all shops, and a survey only can unearth the peculiarities of the particular case.

A survey will disclose the shortcomings of the present system. It should reveal what aids can be offered to remedy the faults, and often will, as an alternative, drastically recommend another in its place.

As with any commodity, the system must be sold to the management, and this is done by persuasive arguments supported by information calculated to show how the cost of the system will be infinitisimally small compared with the savings that will accrue. Industrial consultants receive large fees for such advice, especially in heavily industrialized areas where their services are much sought.

The employee must not be overlooked. He should be approached cautiously about any change, and his reaction to this should be observed. The attitude of the men whom the plan will affect often will bear heavily upon its success. The writer has knowledge of the failure of a wage incentive plan in an enamel shop because of the method through which it was sold to the employees. It just wasn't put across.

Again, the writer will refer to the control which the wage incentive department should exemplify through its methods and rules. The department should keep up to date with the latest developments both within and without the shop.

Before delving into the wage plans, it should be noted that base rates are a very important part of any system, and these should be the result of a thorough study of the jobs involved, in addition to the underlying factors, such as cost of living, labour supply, locality, etc.

Many large firms set their base rates upon such factors as:

1. Physical requirements.
2. Intelligence.
3. Skill.
4. Self-reliance.
5. Industry.
6. Various local conditions, such as heat, noise, dust and fumes.

There are many incentive systems in use to-day, and many of them are suitable for enamel shop practice. One must bear in mind, though, that these are not the open "sesame" to labour costs or labour satisfaction among the men in the shop. A wage system is another tool which management has at its disposal to increase efficiency, lower costs, and increase workers' earnings. Successful systems have always given the men greater net earnings than before the system went into effect, have always encouraged production, have contained differentials between different men and jobs, and many have been invoked as a result of the consensus of opinion of the men in the shop regarding the introduction of a wage system. For the shop itself, a plan must be easy to instal, should aid

clerical and accounting work, be easily understood by the worker, and be based upon scientific method.

With the return of industrial activity and attention focused on costs, management applied more of incentives than during the preceding years so that the terms speed-up, bonus system, etc., became common language, and targets of labour agitators. Some unions, in their demands regarding collective bargaining, asked that this include the settlement of such factors as conveyor speeds. Others have been less tolerable and have wanted the systems eliminated. In the writer's opinion, these attacks have been unjustified, and have been used in an attempt to halt the increased application of incentives in industry. It should be taken for granted that, with the increased use and the many new installations in new industries, some difficulties were to be expected. Even in your enamel processing, wherein everything is predetermined, tested, and proved, much trouble is incurred when a departure from the ordinary is made, to save a firing for example, or when something new is introduced. So it is with the incentive systems, but, if every advantage is taken of motion and time study, standardization, and guess-work be eliminated, then the chances of a one coat job, so to speak, are exceedingly good. Once a system is inaugurated, it needs the best of rate setting and support from the supervisors to make it an integral part of the shop, and this is not unlike the control that is exercised upon the various processes themselves.

Here I should like to make mention of what did happen in a certain plant in the U. S. A. The operations in one department are performed along an endless belt conveyor. At various times the speed of this had been increased until finally it was raised to the point where the operators complained. They said it was impossible to keep up with the pace set by the conveyor.

At first, one would be led to conclude that the men were being driven to give their utmost.

Three or so months elapsed when the company inaugurated a plan whereby each employee so agreeable would receive 52 equal pay checks per year. He would go home only when his work was completed, be it at 2.00 or 8.00 p.m. Ninety per cent. of the employees signed contracts. The operators who, not long before, had complained about the speed of the conveyor, now asked that the rate be increased so that they could finish their work sooner.

This illustrates how greatly a wage incentive can alter a department's production. It is an efficient plant, with a good incentive system, that can lead its men to give their best.

In a certain plant various operations were being performed by girls, and it seemed that everybody was satisfied with the results and costs. After a time, it was decided to displace the girls and to put men in their places. The results were very gratifying both as to morale on the line and costs as well.

The worker does, and will, take every advantage offered. After a rate is set, he really tackles the job, endeavours to improve his work pace, and to accummulate a little surplus to carry him over the odd lull in production.

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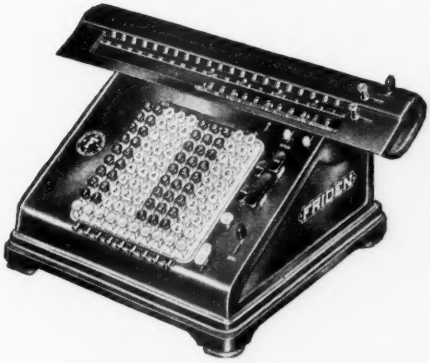

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Out in the shop a good or bad foreman can help to make or break a rate. It is his duty to see that the job is given a good effort, that slackers are checked, and that the men receive all that they're worth.

Many are the cases where something similar to that outlined above has happened, though not always has it been a case of a direct lay-down. Other factors which may cause this are:

1. Workers' efficiency or output should better itself with length of service, and this should be expected. At the beginning of an order, it is safer to place a temporary rate on the job. The final standard should go into effect after production is free of obstacles.
2. Whether male or female operators are more suited to the type of work.
3. Is the job, the incentive or rate in need of revision? If it is, do not delay the inevitable.
4. Lack of discipline.

Before outlining a few of the incentive systems, consider some of the defects in the day rate payment method:

1. Restriction of output is practised.
2. There isn't any incentive.
3. The efficient and inefficient receive the same wage.
4. The employer does not get the best results.
5. Production standards usually fall to that of the low man.
6. Increased supervision cost.

Incentives.

The first incentive offered to labour was the straight piece-work plan. In its simplest form, the worker receives for each unit of output a fixed amount. A man producing 100 units daily with a piece rate of $.075 would earn $7.50. Modifications of straight piece work plans come under the differential type. Under this plan the rate varies according to the output.

There are thousands of jobs in industry to-day being paid for by the above methods. There are disadvantages though. Under a piece rate system, the cost of the job is always the same to the employer. Another is that the clerical work involved is great. Then, when a wage change occurs, and there have been many recently, it involves adjusting the price on every item. This is not the case in a standard time system, for wage adjustments do not affect the standard times.

Next, consider the Bedeaux plan which, of late, has been given much publicity. It has for its standard the amount of work to be done in a minute, and this is known as a "B," or point. Payment is on the minute basis as well. The task of the job is then 60xBxhours. This system guarantees day wage, and all standards are set by time study. The workers and employers split the bonus in the ratio of 3 to 1. The reason advanced by some for the division of the bonus is that, to obtain it, the workers will use more tools and supplies and be more severe with them (in making a bonus).

Under this plan, if a man were to produce 12 units of an item having a standard time of 50 "B's" in an 8-hour day, and his rate were $.50 per hour, then his earnings would be the following:

T=time taken, clock hours eg. 8 hours.
S=standard time 50 B's.
R=rate at $.50 per hour, or $.50x60 per minute.
E=earnings.

E=TR + .75 (S-T) R.,
= (8) (50) + .75 (12x50/60—8x60/60, .50,
=$4.75.

Daily each worker can figure his points to see if he has made a bonus; then also it is simple to compare the efficiency of workers or departments by the actual points produced per hour per worker or department.

Another is the Rowan Plan that has been used in England, although in the United States, Edison General Electric Hoke Appliance has used it. Simply, it resolves itself into giving a man his day rate for the actual time spent on a job and a percentage of the number of hours by which he has beaten the standard. To illustrate, a man is given a job that is rated as 10 hours. He completes it during his 8-hour day. The earning and labour cost on the job will be:

E=8 x $.50 + (8) (.50), 2/10.

A fact about this plan is that a man can never earn more than double his day rate for the time saved on a job can never be more than the time of the job itself. Thus, it protects the employer who hasn't the wherewithal to instal a standard system. If you examine this plan you will find that it is easy to earn the earlier bonus but much more difficult to get the larger ones.

Still another is the Halsey Premium Plan. This was one of the

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pioneers in the wage incentive field. Here the worker is given a predetermined amount of the time he can save in doing a job, based on past performances on the same job. As usual, day work is guaranteed, and the bonus varies, being ⅓, ½, etc. This plan works to an advantage where "green" help is to be put on a bonus system. The employer is able to set his own bonus, and to change the incentive allowed as the men improve their skill; this can be done without affecting the set-up of the system.

The Emerson Efficiency plan is a well known one. In this plan a job is rated as so many hours. At the end of the pay period, weekly or semi-monthly, the number of jobs by the hours per each job gives the worker so many standard hours earned. Into this is divided his actual hours worked, the result being the man's efficiency. The bonus payments for the period are made from a small amount at 66⅔% efficiency to 20% when 100% efficiency is reached and 60% when 140% is attained.

Thus far, it can be seen that each plan has some feature incorporated in it that the others lack. Likewise, it can be said that all shops are alike in that they have their own special conditions to confront. Thus, the multiplicity of systems serve their purposes and warrant careful consideration before the selection of any for a particular purpose need be applied.

Group Systems.

Finally, I shall present in more detail the operation of a group system as it functions at one enamel shop.

Because of the nature of the processes, and because all operations are interdependent, the shop presents a great opportunity for mutual effort. It has been working advantageously for all affected for a number of years.

Although the size of the group varies, efforts have been made to stabilize the production and, so, the size of the group. Through keen supervision, little trouble has been experienced with regard to the opinions of certain workers who, at times, have felt that their output was greater than that of their fellow workers. As long as men with different abilities are to be had, this will always be a problem, but it is easy to solve, and in more than one way. A great advantage has been found in the inspection of the work, which consists now of a visual operation when the product has been completed. Paper work here has been simplified, as well as in the time-keeping.

Every man in the enamel shop, whether dipper, mill hand, or furnace man, is a member of the enamel shop group. Each member is familiar with the mechanics of the system, and the interest taken in the group efficiency is manifest by the eagerness with which they await the results of their daily standing. Because the men are aware that only through good work at an efficient rate of production can they make their bonus, each operator not only does his own work well, but is on the alert for defects on work in process. Any piece that is sub-standard is weeded out and halted from further processing. The supervisor is left to judge as to the disposition of a defective piece. Men in the group do not hesitate to leave hteir post to help a fellow worker because, as long as it is production that is being stimulated, the worker will ultimately benefit.

Also, it has been found that men are anxious to teach one another because they improve their technique, production, and their bonus by the exchange of ideas. A community of interest is thereby a reality, and it is this spirit which the group displays. A few examples will demonstrate this. When the mill hand has a free moment he aids in the dipping where he can be used to advantage, or, if the brushers can act likewise they do so, or may be seen helping the furnace hand. The handlers are not excepted, either. Needless to say, for every pay during the past year a bonus was earned. The co-ordination of effort has netted from 15 to 33% premiums on their day rates. This percentage is a worthwhile incentive, productive of both a decent wage and a low unit production cost.

With the aid of the forms used for the purpose, the daily group results are known thirty minutes after the inspector has completed his work. With equal rapidity are the pay results known. Thus it is possible for the men to compute their earnings before they leave the plant. They do this by multiplying the group percentage by the hours they worked, by their standard hourly rate. If it is expedient to have the processing costs per square foot or any other figures known, the set-up allows for immediate results.

Most incentive systems have a lower day rate than day work plans have, for the reason that a premium should be earned when an incentive is offered, and very rarely does it fail. If it fails consistently, one can be assured that there is something amiss.

Briefly, this enamel shop has adhered to the following procedure: Before an order goes into production, a labour and material estimate cost is prepared on the basis of past performances, and any formulae applicable. To do this, every operation is analyzed, an dan estimated standard time is set for the job. Perhaps a model or so will be received for experimental purposes. Only after this has been worked satisfactorily will the order go into production. After the job has been set up, waste motion is eliminated, routine standardized, and a time study is taken thereon. This is done in accordance with good time study practice. To those men who have had such experience, it can be appreciated how this resolves itself into more than bargaining with the operator for a fair day's work, but also encompass layout, cost reduction, methods, etc., as will be brought out later.

To compensate this group for experimental work or instruction, special orders are available so that the extra skill and effort is well encouraged. The same applies for all extraordinary work. This is mentioned to show that, when set up, the system is very flexible, so that it operates with a minimum of inconvenience and effort.

Once a job is studied, the result is checked against the estimate and, as a rule, taking the results over a long period of time, the actual will not vary appreciably from the estimate. If a discrepancy does occur, it is investigated until it has been found and satisfactorily explained.

In the setting of times, allowances are made for dip tank set-up, sprayers set-up, milling, handling, rejects, personal factor, and a levelling

factor based on skill, effort, conditions, consistency. The allowance for rejects is in reality a quality bonus, which is based upon the performances of past years. This is, a certain set percentage of the cost is allowed for rework; the men know this and they endeavour to gain by holding down the percentage of rejects below the constant allowance. The company as well as the worker gain, because, even though the workers may receive the odd percent. more for rework than is actually the case, the company benefits because less rejects mean less enamel used, less power consumed, less scrap, and maintained production schedules.

Experimental Work.

With regard to new and experimental work, it might be well to generalize on the subject because of the fact that where costs are much higher than that on straight production.

Although it is well known that all new work should be incepted gradually, often because of the sales demands for a product, large scale production is a matter of necessity. The result is that at the end of the first pay period, special allowances will have to be made to the group for the first "so many" units. This will be to take care of such factors as:

1. Instruction to new men.
2. Experimental work.
3. Errors in design.
4. Extra work, the result of errors of a feeder department.
5. Sales requests.

It might be opportune to mention that the demarcation between experimental work, etc., and production is sometimes difficult to classify. With regard to costs (to avoid misrepresentation), it is important that proper care be taken in their allocation, for often a difference of opinion exists as to which order should be charged.

An effective method to overcome some of the above disadvantages is followed by one company. It has set aside a special department in which each new job or process is studied and developed, operation after operation. Production is not attempted until the methods have been set up and found favourable. This has been found to be a great aid to better rate setting and costing.

As mentioned before, after the ware has been processed it is presented to the inspector for approval. The inspector uses a thickness gauge, straight edges, etc., on the various and sundry items. It is well to note that, formerly, there was an inspector at the dip tank, but, by an arrangement this was transferred to the dippers who now do their own inspecting, thereby saving a fair amount. At the final inspection, a daily form is used that tells: (1) how thicknesses are; (2) what the rejects have been and their most likely causes; (3) the various items inspected, both as to the quantity passed and rejected. This form is turned in to the timekeeper who calculates: (1) the hours earned, i.e., items x standard time; (2) area or pounds of metal enamelled; (3) percentage of rejects; (4) the group efficiency for the day and accumulative for the pay.

A second report shows: (1) the enamel ware, sent from the shop to the sandblast or scrap heap; (2) the enamelware damaged on the various

assembly lines; (3) and a figure for every pay of the percentage of rejects, i.e., percentage of rejected and "de-enamelled" hours out of the total hours worked by the group.

In the enamel shop is a "Group Standing Board." The headings read:

Date—1937	Men on Group	Std. Hrs. Earned	Hours Worked	%
Dec. 1	25	240	200	120
.....				
.....				
15				
Pay 1-15	25	3600	3000	120

Suppose the board to read thus:

Then the men know that for the pay their bonus is 20%. But closer investigation shows it to be 34%, and this is the reason: When a man is hired he has two rates. One is his day rate, and the other his standard time rate. To illustrate: D. Smith is hired at $.50 an hour. If he unloads cars of incoming material or cleans out spray booths, his rate is $.50 per hour. If he were on the group and its efficiency did not warrant a bonus his rate again would be $.50 per hour. However, if Smith is put to work spraying and the group's efficiency reaches 100% his rate automatically increases to $.56 per hour. In this case there is a differential of 12% between day and standard rates. Above 100% Smith would receive the total of everything earned. Now, a group really makes out at a little less than 90%. For, if 90% of .56 is taken the product is $.504, which is greater than day rate. And that is why the bonus is 34.4%, not 20%. The table below bears this out:

Hours Earned	Hours Worked	Std. Time Day Rate	Std. Time Rate	Earnings	Actual Bonus	As Shown On Board
120	100	.50	.56	$67.20	134.4	120.00
107.14	100	.50	.56	60.00	120.0	107.14

However, a group doesn't consider that it has made a bonus until it reaches 100%. And what is 100%?—the efficiency of an average man, working under average conditions with average skill and effort. It is a task in itself to define the average man.

As mentioned before in this shop time study, cost reduction and control are inter-related. Just to set the standard is not enough, but the follow-up and control activities are held to be most important.

It is well to consider that circumstances will dictate as to what extent the wage incentive plan will affect control. For it is evident that one function of wage incentives is to reduce costs, and the best way to do this is to simplify the job to the one best way, and hence, either directly or indirectly time-study men find themselves involved in such phases as those which follow.

The first phase in the control enters upon the analysis of the results for the pay period. If the group hasn't a high enough efficiency, the reasons are sought after. Why? Because by simple calculation it can be shown that below 88% the company is losing money on the men. This means that the cost of the order will increase abnormally because the men

aren't meeting the standard nor paying for themselves. The answer to this may be any of the following: Was it because too many men were in the shop for the amount of work on hand? Was it because of too many rejects? Was it because of avoidable delays (that are checked daily)? Was the production schedule at fault? It is well to note that the shop will accommodate rush orders, but it dissents when asked to process uneconomical quantity lots. It knows that this will raise costs, and disturb the efficiency of the group adversely.

Other control records kept in the enamel shop include the usual cleaning and pickle tank control, dip tank, cover coat spray weights control, etc., which serve to check material consumed as well as processes involved.

As mentioned before, a repair and scrap record is kept to control unfavourable activities on the assembly lines, and also to control the scrapping of pieces by the enamel shop. It is only when such figures are obtainable that one has the data regarding the shop performance. In this case, the scrap has been a fraction of a percent., but with the figures on hand it is easy to judge whether a little laxity or improvement is in the air.

Material Control.

Another phase is that which deals with material control. When an order is received, the kind or amount of material required is estimated, and if it is not in stock, an economical lot is purchased to meet the needs. Although all price advantages are taken on large quantity buying, the fundamental idea is to keep the raw materials inventory to a safe working minimum. In this way less storage room, waste, handling, etc., is required, and cost of keeping inventories is reduced.

Each piece of ware carries its own material charge. The shape of the piece is noted and a cost per pound or per square foot is allocated, many times after an actual test has been made. To control and check the material costs, the amount of raw material charged to the enamelling operation is balanced against the value of the enamel added to the ware processed for the same period. The checking uncovers discrepancies and, if seen fit, an investigation ensues to prevent a repetition.

As mentioned previously, the quality bonuses on rejects aids in cutting enamel consumed; another method to reduce material costs is that of the bonus on one coat work, and a third is the thickness guage which aids as a guide to control the amount of enamel per square foot applied by the sprayers.

With regard to the storage of finished products it has been the policy to do this in containers wherever possible. For example, recently 15,000 drawn pieces were received in cartons from an outside source. These had to be stored before enamelling. By salvaging the original cartons, much expense was saved. This example is given as one of the many that occurs because of the "cost consciousness" impressed upon the men.

Another element of cost that warrants close control is that of factory expense. It is the one that can go most easily astray without being detected because usually the figures, or checks, aren't available until the damage has been done. Thus, in the setting of rates and incentives, an eye should be cast towards the absorbing and controlling of such factory

expenses as inspecting, handling, storing, shipping, defective work, cleaning equipment, etc. It is no more difficult to rate and standardize the above jobs than the regular production work. In some plants these items, to various degrees, are included in the cost of the job, but in other cases, either through policy or custom they fall entirely in the factory expense category.

In the analyzing of each job, if provision is made to include handling, supervision, inspecting, etc., in the rate then your control is more or less automatic. But in cases where this is not so, then some dynamic control is needed. The particular case in mind uses the following method: Semi-monthly, a record is kept of the handling, defective work, inspecting, supervision, cleaning hours, etc. These are the most important items which the froeman can control. Into each of these totals is divided the productive labour hours for the corresponding period, the result of which gives you a ratio of productive labour to each of the items. These ratios are then checked against what is considered normal for the period. Whenever an abnormal ratio is noted, efforts are directed to bring it back to normal.

All along it is intended that the listener should grasp the fact that to have effective contral the figures, data, if to be of service, must be "hot," i.e., very recent so that because of this direct action can be taken. Figures showing bad performances three or so months back, probably can raise much discussion, but those chat can be had when a couple of days old are the ones that can cause action and make for effective control.

In conjunction with the foregoing control and cost reduction in this shop, there are various important factors that may affect the costs, and if these are unfavourable and allowed to persist a noticeable abnormal cost is reached. Not only that, but unfavourable group efficiencies will be noted.

First consider the design of parts to be enamelled. The enamel shop encountered trouble because of defective design both in cast iron and sheet steel parts. However, by consulting the engineers concerned it has been able to have the ideas received and put into effect. The trouble overcome, dealt with utility drawers, oven front, linings, etc.

Another source of complaints were aimed at feeder departments. One concerned a drawing compound that caused much trouble, and only after presenting the problem from the enamelling point of view did that process receive satisfaction. Another dealt with welding; the solution was arrived at after a similar method of attack. Cost in both cases gained profitably. Finally there was a siege of improper sandblasting that had to be corrected.

Outside supplies can be a source of trouble, and in one case to keep the costs within reason, a shift was made from an assembled and welded product to a deep drawn one.

The cost control set-up calls for a thorough investigation of any damaged ware returned from the assembly lines. On occasions the trouble has been found to be owing to some new hands who lacked knowledge of enamel properties or mistreated them, or the assembly technique was improper.

By educating the conveyor man, handlers, and storekeepers that enamel ware should be handled akin to glass, the men have been "preserve-the-finish" conscious, with the result that the ware is being handled without complaints from the enamel shop. The same applies to the assemblers, who know that if the fit does not dove-tail, the enamel pieces are not to be forced or abused, but consultation with the enamel department to effect a solution should be instigated.

To sum up, it can be said that, in this enamel shop, every step is taken to set an incentive before the men, and further, to control costs. This checking begins before the enamelling process and does not terminate until the ware has been put into service. It is felt that this has eliminated most of the unprofitable activities in the shop.

And with regard to labour, it must be borne in mind that it is in a process of change, that with the aid of an incentive workers can cut costs and develop ideas, and their confidence must be gained to aid in the operating of a successful plant.

ANNUAL MEETING OF THE SOCIETY

The annual meeting of the Society will take place on Monday, May 30th, at the Lakeview Golf and Country Club, Port Credit, near Toronto, Ontario, at 1 p.m., daylight saving time.

The Directors will meet at 11 a.m. for a short meeting, to be followed by luncheon at 12 p.m., and which members generally are invited to attend. It is hoped to complete the annual meeting in time for members to commence the golf game by 2.30, but if this is not possible, the meeting will be continued in the evening.

Dinner will be held at 6.30 p.m., followed by a continuation of the annual meeting if this is not completed prior to the golf game. Following this, the new Directors will convene for the purpose of electing officers and for the transaction of any other business which may be necessary.

Members have all been notified by letter of the arrangements, and it is hoped that a large number will be on hand for both the anuual meeting and golf game.

Society Examination Papers

ADVANCED COST ACCOUNTING

Monday, April 25th, 1938. **7.00 p.m. to 10.00 p.m.**

Marks.

1. You have been concerned with arranging a group of cost reports to supplement the usual manufacturing and operating statements.
12 What are the principal characteristics which such reoprts must possess in order that they may be of greatest value to the Management?

2. The Alden Production Co. has a fixed plant investment of $300.-000. During the year 1937 its expenses were: Direct Materials $300,000, Direct Labour $900,000, and Manufacturing Expense
14 $300,000. The company produced 120,000 articles, all alike, and had on hand on December 31st, 1937, 6,000 articles half-completed. 100,000 articles had been sold for $1,150,000. No Inventories were on hand on January 1st, 1937.

   1—Prepare statements in columnar form to show the manufacturing cost, inventory values, cost of goods sold, and gross profit on sales.

   (a) without considering interest on investment.

   (b) considering as a cost of production 5% interest on the fixed plant investment.

   2—Suppose the company wishes to include as a surplus, only that portion of the interest realized on the actual sales made for the year, and to remove from the inventories in the balance sheet the interest included in their cost—

   (a) Show total entries necessary to account for the interest on investment, and,

   (b) Show how the inventories would appear on the Balance Sheet in this case.

3. The Horton Manufacturing Company has been operating a process cost system. The plant consists of eight productive depart-
24 ments, viz.: cutting, grinding, cleaning, filling, machining, finishing, trimming, and assembling; and produces five products designated as XY1, XY2, XY3, XY4, and XY5.

   Each product is made up of units passing through each process. The following table gives the number of such units from each department entering into each item of product and the average cost per unit in each process as determined by the process cost system.

	Cost per Unit	No. of Units in each Product				
Process	each Process	XY1	XY2	XY3	XY4	XY5
Cutting	$3.60	1	....	4	3	2
Grinding	1.20	....	10	1	....	3
Cleaning	.48	....	1	....	4	....

Marks.

Filling	.36	6	2	9	1	10
Machining	1.80	7	....	....	7	2
Finishing	.84	....	6	....	2	2
Trimming	.66	1	....	6	....	2
Assembling	2.58	5	....	....	....	6

On January 1st, 1937, the company discontinued its process cost system and began using the average cost per unit as shown above as a standard.

The Total Cost of Goods Manufactured during the year 1937 was $418,671.

The quantity of each product manufactured, during the year, was—

Product	Quantity of Production
XY1	2,736
XY2	4,392
XY3	1,560
XY4	5,592
XY5	2,928

The company wishes to apportion the costs over the various products by means of weighted averages. It denotes the value of each item of product in points, taking the lowest product cost as one point and valuing the other products in proportion. Prepare schedules showing—

(a) The standard cost of each product item as computed from the process cost of the previous years.

(b) The actual cost of each item of product for the year 1937 as computed by means of weighted averages.

4. One of the principal functions of operating budgets is the control of expenses.

12

State, briefly, what measures should be taken ot ensure that such control is effective.

Marks.

5. The Painter Corporation operates a Standard Cost System, with fiscal year ending on December 31st.

38 The Trial Balances of the company as at January 31st, 1938, and as at February 28th, 1938 (showing accumulation for year to date), are as follows—

	January 31st	February 28th
Raw Materials Stores a/c (Actual)	$ 36,000	$ 41,790
Work in Process (Standard)	12,000	24,000
Finished Goods (Standard)	27,000	15,000
Accounts Receivable	90,000	120,000
Cash	27,000	30,450
Manufacturing Supplies Inventory a/c	2,7000	2,100

Prepaid Fire Insurance	900		540	
Prepaid Workmen's Compensation Insurance	2,100		1,764	
Plant and Machinery	90,000		90,000	
Factory Buildings	180,000		180,000	
Reserve for Depreciation on Machinery and Buildings		36,000		46,500
Land	30,000		30,000	
Accounts Payable		18,750		41,400
Accrued Taxes		3,600		600
Accrued Labour		2,520		3,120
Capital Stock		375,000		375,000
Surplus—Dec. 31st, 1937		65,580		65,580
Sales		105,000		255,000
Cost of Goods Sold	72,000		180,000	
Deprec. on Machinery and Buildings	10,500		21,000	
Indirect Labour	9,000		18,300	
Heat and Light	2,400		5,100	
Taxes	600		1,200	
Fire Insurance	360		720	
Workmen's Compensation Insurance	270		606	
Manufacturing Supplies Expense a/c	420		1,020	
Factory Power	3,600		7,800	
Selling Expense	9,000		19,500	
Administrative Expense	24,000		49,200	
Material Variance	270		480	
Labour Variance	330		630	
Applied Manufacturing Expense		24,000		54,000
	$630,450	630,450	841,200	841,200

During the month of February raw material costing $60,000 was purchased. The Direct Labour charged to Work in Process at Standard Cost amounted to $24,000.

The Surplus Account shows the balance as at December 31st, 1937. The company made a Net Loss of $3,750 during the month of January.

Required—

(a) All Journal Entries necessary to summarize the transactions for the month of February, up to the recording of the Cost of Goods Sold.

(b) General Ledger Accounts for Work-in-Process, Finished Goods, and Manufacturing Expense for the Month of February.

(c) Manufacturing Statement for the month of February—showing cost of Production at Standard.

(d) Trading and Profit and Loss Statement for the month of February—showing variances adjusted to Cost of Goods Sold.

(e) Balance Sheet—as at February 28th.

INDUSTRIAL MANAGEMENT

Final Examination

1. Name and describe fully the functions of a personnel manager in an industrial organization.

2. Define time study and motion study. Describe fully the methods of making time and motion studies. Illustrate the set-up of an Observation Sheet.

3. Name and describe fully the general rules of administration.

4. Discuss fully the problem of laying out a Manufacturnig Plant in a manner to facilitate economical production, and future expansion.

5. In a piece rate shop, an employer has been getting eight pieces done for him in eight hours at a rate of 50 cents per piece. With this time and rate as a basis, he changes over to a Halsey half premium system, and the output becomes 64 pieces per week. How much increase in weekly wages are the men getting? What has happened to the direct-yabour cost per piece in the change?

6. Under the Taylor differential piece-rate system, with rates set at 25 cents and 20 cents, and standard time set for a job at half hour, one man takes on the average 35 minutes for the job, while another takes 25 minutes. What are these men earning per day of eight hours?

EMPLOYERS

▼

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Mr. R. W. Louthood, a prominent member of the Montreal Chapter and a Past President of the Society.